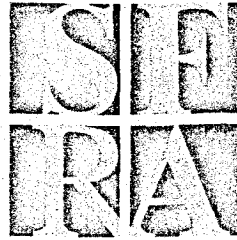


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May 30, 2002

#450-02302-190

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AR\_N00217\_000928  
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**Subject: Comments on Hunters Point Shipyard Draft Historical Radiological Assessment, Volume II, March 29, 2002**

Dear Mr. Forman:

The City has reviewed portions of the Draft Historical Radiological Assessment ("HRA"), Volume II, March 29, 2002. To assist us in our review of radiological issues, the City retained Professor Bill Kastenbergs from UC Berkeley's Department of Nuclear Engineering. Based on a review by City staff and guidance from Dr. Kastenbergs, the City has the following comments on the Draft HRA:

**General Comments**

1. **Discussion on Remaining Risks:** Although the HRA does a good job gathering a large set of documents spanning many years, the HRA does not provide a clear discussion of the remaining risks. Section 8 ("Findings") and Section 9 ("Conclusions") identify the areas at the Shipyard that need further investigation. However, the language is too general for both technical and non-technical audiences to interpret these findings. For example, language such as "exceeded investigation levels" or "elevated" could mean that the current condition is 10 percent above background and poses no significant risk. Or, this language could mean high-level contamination with the potential for acute risks. The Navy should provide a separate discussion (such as an Executive Summary) of residual contamination and risks. This summary will be successful if it puts the radiological contamination into perspective for both technical and non-technical audiences. For example, if a worker encounters the worst area of contamination, is the exposure analogous to the radiation dose when flying across country, or analogous to the radiation from a spent fuel rod? Data indicates that the Shipyard has very low levels of radiological contamination, however, this needs to be clearly articulated by the Navy.
2. **Summary Matrix:** Although the HRA provides numeric data in different locations, it is very difficult to assess how past and present levels compare to regulatory standards. It is also difficult to determine which sites have been cleared by regulatory agencies and which sites need further investigations. The City requests that the Navy construct a

Summary Matrix that includes the following information for IR sites (soil and groundwater) and Buildings: parcel location, range of levels detected (both pre-cleanup and current condition), regulatory standard, status of investigation/cleanup, regulatory clearance, and name/location of all relevant documentation. To illustrate this request, Attachment A of this comment letter includes an Example Matrix, "Summary of Radiological Investigations, Current Conditions, Regulatory Standards and Clearances, and Documentation." Although this Example Matrix does not provide the necessary data, it should provide a framework for this much-needed summary.

3. **Inconsistencies:** As described in an April 18<sup>th</sup> e-mail from the City (Brownell) to the Navy (Forman), there are many inconsistencies throughout the HRA. Examples of these inconsistencies include: buildings listed in more than one parcel, buildings described as needing "no further action" in one section and part of an ongoing investigation in another section, and various inconsistencies between graphics. Although these inconsistencies are not flaws in the characterization/cleanup approach, these errors have created unnecessary confusion. The Navy should correct these errors in the Final HRA and should provide a comprehensive errata sheet that lists the Draft HRA inconsistencies and corrections. The City's April 18<sup>th</sup> e-mail is provided as Attachment B to this comment letter.
4. **Cleanup Criteria:** In Section 4.1.3 of the HRA, cleanup criteria is described as preliminary but currently based on NRC and EPA guidelines. The NRC standard for buildings is based on  $10^{-3}$  cancer risk (NRC\_1999.pdf on HRA CD #2). The EPA standard for soil and groundwater is based on  $10^{-6}$  to  $10^{-4}$  cancer risk (EPA2002.pdf on HRA CD #2). What is the basis for selecting these cleanup standards? Are the NRC standards as protective as EPA's site-specific cleanup standards?

### Specific Comments

1. **Section 6.7.** Section 6.7 is a summary of a radiation risk assessment for Parcel E. It is the only attempt at conveying a risk for any of the parcels. No mention is given of why Parcel E was chosen or why the other parcels were not assessed from a risk perspective.

The report acknowledges the EPA Superfund risk target for remediation as  $10^{-6}$ , excess lifetime cancer risk. EPA acknowledges that risk ranges between  $10^{-4}$  to  $10^{-6}$  may be "acceptable" depending on site-specific circumstances (see National Oil and Hazardous Substances Pollution Contingency Plan—40 CFR 300). The Navy should determine if this rule was only meant to apply to soil clean up and for chemical pollutants. Or, if this rule was also meant for radiological risk and for other exposure pathways. This may become an important consideration because some of the risks calculated for Rn-222 in indoor air are calculated to be above  $10^{-4}$ . This needs to be looked into further.

2. **Section 8.** This could be the most important part of the report. Unfortunately, it falls short of answering some very important risk related questions because there is a considerable amount of work in progress. It is not clear which environmental media (soil, groundwater, air, etc.) are of concern. For Parcel E groundwater, even though the

groundwater that is contaminated will not be used as drinking water, the contamination exceeds MCLs. This issue requires a more detailed discussion regarding risk management.

3. Section 8.4. This section considers potential exposure pathways and refers to the related Remedial Investigations. Words like "only slightly exceed background concentrations" are used and it is unclear what that means quantitatively.
4. Section 9. The conclusions regarding groundwater do not appear to be consistent with the findings of Section 6.

The Navy's response to these comments should help address community concerns and should help demonstrate that it's safe to transfer Parcel A to the City. If you have any questions on these comments, please contact Gregg Olson of SFPUC at (415) 554-3262, or Amy Brownell of SF Health Department at (415) 252-3967.

Sincerely,



A. Don Capobres  
Senior Project Manager  
Hunters Point Shipyard Redevelopment Project Area

Attachment

Attachment

Cc: Jesse Blout, CCSF-MOED  
Don Bradshaw, LFR  
Karla Brasaemle  
William Breedlove  
Amy Brownell, CCSF-DPH  
Dr. Clarence Callahan  
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Rona Sandler, CCSF-OCA  
Dorinda Shipman, Treadwell & Rollo  
Chris Shirley, ARC Ecology  
Laurie Sullivan, USEPA  
Keith Tisdell  
Claire Trombadore, EPA  
Anna E. Waden Library  
Mike Wanta, Tt EMI  
Elaine Warren, CCSF-OCA  
Caroline Washington  
Michael Work, EPA

Bcc: Marcia Rosen

# Attachment A - Example Matrix

## Summary of Radiological Investigations, Current Conditions, Regulatory Standards and Clearances, and Documentation (as of May 2002)

Site	Parcel	Range of levels detected (min to max)		Regulatory Standard			Status of investigation/cleanup	Regulatory Clearance	Documentation
		pre- cleanup	current condition (as of May 2002)	NRC for buildings (based on 10E-3 cancer risk range)	EPA PRG for soil/groundwater, <u>residential</u> reuse (based on 10E-6 to 10E-4 cancer risk range)	EPA PRG for soil/groundwater, <u>industrial</u> reuse (based on 10E-6 to 10E-4 cancer risk range)			
IR SITES - SOIL									
IR Site XX	D	Radium- 226: XX to XX  Americium- 241: XX to XX	Radium- 226: XX to XX  Americium- 241: XX to XX	NA	NA (industrial reuse area)	xx	surveys ongoing	No	
IR Site XX	E			NA	xx	NA (residential reuse area)	surveys and removal actions to be conducted in 2004	No	
IR SITES - GROUNDWATER									
IR Site XX	E			NA	xx	xx	Phase III gw report to be submitted Oct. 2002	No	Phase I and II GW reports (dated XX)
BUILDINGS									
Building XX	A	Gross Beta: XX - XX	Gross Beta: XX - XX	xx	NA	NA	No Further Action	Yes (CA DHS, 1993)	Navy_1969.doc (HRA Vol. 2)  DHS_1993.doc (HRA Vol. 2)
Building 815	off-site FUDS property						No Further Action	No - DHS clearance not required at time of property transfer, 1984	Navy_XX.doc (HRA Vol. 2)

## **Attachment B**

### April 18, 2002, e-mail from the City (Brownell) to the Navy (Forman) on HRA Errors

After an initial review of the Draft HRA dated March 29, 2002, the City has noticed several inconsistencies throughout the document. Although these errors are not technical flaws in the HRA approach, the inconsistencies are creating unnecessary confusion. The City recommends that the Navy release a summary page to clarify these inconsistencies.

The City recommends the following approach to identifying these inconsistencies:

1. Perform a computer search (Adobe "Find") of each building/site to ensure that the impacted/non-impacted status is consistent and accurate throughout the document. An example of these inconsistencies is Building 821. Building 821 is mentioned on page 6-34 as being part of NWT ongoing survey and then on page 8-3 it is listed as needing no further action. Obviously, one of these references is incorrect.
2. Compare figure colors to ensure that the colors are consistent and accurate throughout document. An example of these inconsistencies includes Figures 6-2 and Figure 8-4. Figure 6-2 shows several buildings in Parcel B and Parcel D as Class 3 impacted (orange). Figure 8-4 shows these same buildings as needing No Further Action (green).
3. Compare all Tables, Figures, and Section headings to ensure that buildings are listed in the correct Parcel. For example, Building 815 is incorrectly listed in Parcel A on p. 6-32 and Table 6-2.

We have not reviewed the entire HRA. However, a review of FUDS sites revealed the following discrepancies for Buildings 820, 815, 830, and 831. We also noticed some errors with the Building 821 information. Building 821 is on Parcel A.

FUDs sites:

#### **Building 820**

- On page 6-13, Building 820 is listed as having no G-RAM and AEC release is not required. However, on page 8-7, it is listed as part of the NWT ongoing survey.
- On page 6-57 and in Table 6-2, Building 820 is listed in Parcel E and a FUDS. It should be a FUDS but not in Parcel E.

#### **Building 815**

- On page 6-32 and Table 6-2, Building 815 is incorrectly listed in Parcel A. In Table 7-1 and all figures, Building 815 is correctly listed as not being in Parcel A.

#### Buildings 830/831 (kennels)

- On page 6-57, page 8-7, Table 6-1, and Table 6-2, Buildings 830 and 831 are listed in Parcel E. However, in Table 7-1, Buildings 830 and 831 are not in Parcel E but are listed as a FUDS. We believe the FUDs designation is correct.
- On page 6-57, Figure 6-2, and Table 6-1, Buildings 830 and 831 are not part of the NWT ongoing survey. However, on page 8-7 and Figure 8-4, Buildings 830 and 831 are part of the NWT ongoing survey.

#### PARCEL A Building

##### Building 821

- On page 6-13, Building 821 is described as having no G-RAM and AEC release is not required, and on page 8-3, Building 821 is described as needing no further action. However, on page 6-34, Building 821 is listed as part of the NWT ongoing survey.
- On page 6-34, page 8-3, Figure 7-1, and Tables 6-1/6-2, Building 821 is listed in Parcel A. However, in Table 7-1, it is listed as a FUDS. We believe the Parcel A listing is correct, but please check.